

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use several sheets if necessary) (PTO-1449)	ATTY. DOCKET NO.	SERIAL NO.
	19226/950 (R-5557)	09/336,126
	APPLICANT	Ren et al.
	FILING DATE	GROUP ART UNIT June 18, 1999 1754

SEP 20 1999

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
<i>dkd</i>	1	3,919,550	11/11/1975	Banbury			
	2	4,684,581	08/04/1987	Struthers			
	3	4,943,493	07/24/1990	Vartanian			
	4	5,185,922	02/16/1993	Pendley et al.			
	5	5,366,820	11/22/1994	Tsutsumi et al.			
<i>dkd</i>	6	5,888,670	03/30/1999	Kawakami			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION IF APPROPRIATE

OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

<i>MCP</i>	7	Huang et al., "Growth of Highly Oriented Carbon Nanotubes by Plasma-Enhanced Hot Filament Chemical Vapor Deposition", <u>Applied Physics Letters</u> , 73:3845-3847 (1998)
	8	Ren et al., "Synthesis of Large Arrays of Well-Aligned Carbon Nanotubes on Glass," <u>Science</u> , 282:1105-1107 (1998)
	9	Ren et al., "Large Arrays of Well-Aligned Carbon Nanotubes", Proceedings of 13 th International Winter School on Electronic Properties of Novel Materials, Kirchberg/Tirol, Austria (Feb. 27-March 6, 1999)
	10	Ren et al., "Growth of a Single Free-Standing Multiwall Carbon Nanotube on Each Nano-Nickel Dot," <u>Applied Physics Letters</u> , 75:1086-1088 (1999)
	11	Li et al., "Large-Scale Synthesis of Aligned Carbon Nanotubes", <u>Science</u> , 274:1701-1703 (1996)
	12	Iijima, "Helical Microtubules of Graphitic Carbon", <u>Nature</u> , 354:56-58 (1991)

EXAMINER

DATE CONSIDERED

2/7/05

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 6.9; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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<i>all of</i>	13	Thess et al., "Crystalline Ropes of Metallic Carbon Nanotubes," <u>Science</u> , 273:483-487 (1996)
	14	Journet et al., "Large-Scale Production of Single-Walled Carbon Nanotubes by the Electric-Arc Technique", <u>Nature</u> , 388:756-758 (1997)
	15	Setlur et al., "A Method for Synthesizing Large Quantities of Carbon Nanotubes and Encapsulated Copper Nanowires," <u>Appl. Phys. Lett.</u> , 69:345-347 (1996)
	16	Liu et al., "Fullerene Pipes," <u>Science</u> , 280:1253-1256 (1998)
	17	Frank et al., "Carbon Nanotube Quantum Resistors," <u>Science</u> , 280:1744-1746 (1998)
	18	Gadd et al., "The World's Smallest Gas Cylinders?," <u>Science</u> , 277:933-936 (1997)
	19	Dillon et al., "Storage of Hydrogen in Single-Walled Carbon Nanotubes," <u>Nature</u> , 386:377-379 (1997)
	20	de Heer et al., "Aligned Carbon Nanotube Films: Production and Optical and Electronic Properties," <u>Science</u> , 268:845-847 (1995)
	21	Nagy et al., "Carbon Nanotube Tipped Atomic Force Microscopy for Measurement of < 100 nm Etch Morphology on Semiconductors," <u>Applied Physics Letters</u> , 73:529-531 (1998)
	22	Fan et al., "Self-Oriented Regular Arrays of Carbon Nanotubes and Their Field Emission Properties," <u>Science</u> , 283:512-514 (1999)
	23	Wong et al., "Covalently Functionalized Nanotubes as Nanometre-Sized Probes in Chemistry and Biology," <u>Nature</u> , 394:52-55 (1998)
<i>ACM</i>	24	Schmid et al., "Carbon Nanotubes are Coherent Electron Sources," <u>Appl. Phys. Lett.</u> , 70:2679-2680 (1997)

EXAMINER	<i>Michael E. Meyer</i>	DATE CONSIDERED <i>2/2/01</i>
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<i>O P E</i>		SEP 20 1999				

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<i>RCD</i>	25	Dai et al., "Nanotubes as Nanoprobes in Scanning Probe Microscopy," <u>Nature</u> , 384:147-150 (1996)
	26	Wang et al., "A Nanotube-Based Field-Emission Flat Panel Display," <u>Applied Physics Letters</u> , 72:2912-2913 (1998)
	27	Küttel et al., "Electron Field Emission From Phase Pure Nanotube Films Grown in a Methane/Hydrogen Plasma," <u>Applied Physics Letters</u> , 73:2113-2115 (1998)
	28	Rinzler et al., "Unraveling Nanotubes: Field Emission From an Atomic Wire," <u>Science</u> , 269:1550-1553 (1995)
	29	Che et al., "Carbon Nanotubule Membranes for Electrochemical Energy Storage and Production," <u>Nature</u> , 393:346-349 (1998)
	30	Terrones et al., "Controlled Production of Aligned-Nanotube Bundles," <u>Nature</u> , 388:52-55 (1997)
	31	de Heer et al., "Aligned Carbon Nanotube Films: Production and Optical and Electronic Properties," <u>Science</u> , 268:845-847 (1995)
	32	de Heer et al., "A Carbon Nanotube Field-Emission Electron Source," <u>Science</u> , 270:1179-1180 (1995)
	33	Yang et al., "Nanorod-Superconductor Composites: A Pathway to Materials with High Critical Current Densities," <u>Science</u> , 273:1836-1840 (1996)
	34	Fan et al., "Self-Oriented Regular Arrays of Carbon Nanotubes and Their Field Emission Properties," <u>Science</u> , 283:512-14 (1999)
<i>ACD</i>	35	Collins et al., "A Simple and Robust Electron Beam Source From Carbon Nanotubes," <u>Appl. Phys. Lett.</u> , 69:1969-1971 (1996)

EXAMINER <i>Michael C. Myer</i>	DATE CONSIDERED <i>2/9/01</i>
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		36	Rinzler et al., "Unraveling Nanotubes: Field Emission from an Atomic Wire," <u>Science</u> , 269:1550-1553 (1995)
		37	Schmid et al., "Carbon Nanotubes are Coherent Electron Sources," <u>Appl. Phys. Lett.</u> , 70:2679-2680 (1997)
		38	Collins et al., "Unique Characteristics of Cold Cathode Carbon-Nanotube-Matrix Field Emitters," <u>The American Physical Society</u> , 55:9391-9399 (1997)
		39	Ajayan et al., "Aligned Carbon Nanotube Arrays Formed by Cutting a Polymer Resin-Nanotube Composite," <u>Science</u> , 265:1212-1214 (1994)
		40	Yudaska et al., "Behavior of Ni in Carbon Nanotube Nucleation," <u>Appl. Phys. Lett.</u> , 70:1817-1818 (1997)
		41	Charlier et al., "Microscopic Growth Mechanisms for Carbon Nanotubes," <u>Science</u> , 275:646-649 (1997)
		42	Collins et al., "Nanotube Nanodevice," <u>Science</u> , 278:100-103 (1997)
		43	Bower et al., "Deformation of Carbon Nanotubes in Nanotube-Polymer Composites," <u>Appl. Phys. Lett.</u> (in press)
		44	Gao et al., "Electrochemical Intercalation of Single-Walled Carbon Nanotubes with Lithium," <u>Chem. Phys. Lett.</u> , 307:153-157 (1999)
		45	Štulík et al., "Microelectrodes: Definitions, Characterisation and Hints For Their Use", <u>IUPAC Commission, Document No. 550/61/97</u> (1999)
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<i>Jcl</i>	1	5,346,683	09/13/94	Green et al.			
<i>J</i>	2	5,648,056	07/15/97	Tanaka			
<i>J</i>	3	5,916,642	06/29/99	Chang			
<i>J</i>	4	5,780,101	07/14/98	Nolan et al.			
<i>J</i>	5	5,726,524	03/10/98	Debe			

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		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION IF APPROPRIATE
<i>acd</i>	6	JP 407061803 A (Abstract)	03/07/95	Japan			
<i>l</i>	7	WO 96/09246 A1 (Abstract)	03/28/96	WIPO			
<i>l</i>	8	WO 95/10481 A1 (Abstract)	04/20/95	WIPO			
<i>acd</i>	9	JP 410265208 A (Abstract)	10/6/98	Japan			

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PATENT AND TRADEMARK OFFICE

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use several sheets if necessary)

(PTO-1449)

~~JUN 15 2000~~

A circular stamp with a double-line border. The outer ring contains the text "U. S. PATENT & TRADEMARK OFFICE" at the top and "JUN 15 2000" at the bottom. The inner circle has "SHEETS IF NECESSARY" at the top and "RECEIVED" at the bottom.

ATTY. DOCKET NO.

19226/950 (R-5558)

SERIAL NO.

09/336.126

APPLICANT

Ren et al.

FILING DATE

June 18, 1999

GROUP ART UNIT

1772

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OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

<i>ACP</i>	1	Chen et al., "Well-aligned Graphitic Nanofibers Synthesized by Plasma-assisted Chemical Vapor Deposition," <u>Chemical Physics Letters</u> 272:178-182 (1997)
<i>I</i>	2	Chen et al., "Field Emission from Aligned High-density Graphitic Nanofibers," <u>Applied Physics Letters</u> 73(15):2119-2121 (1998)
<i>ACP</i>	3	Chen et al., "Plasma-induced Low-temperature Growth of Graphitic Nanofibers on Nickel Substrates," <u>Journal of Crystal Growth</u> 193:342-346 (1998)

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